



Iowa Department of Natural Resources  
Flood Plain Management Program  
**Channel Changes**

Use this guidance to ensure that your flood plain application is complete. To view a complete version of the state's flood plain management and dam safety criteria, visit <http://floodplain.iowadnr.gov>.

**Technical Assistance Help Line: 866-849-0321**

Don't forget to provide names and addresses of landowners located immediately upstream, downstream and across from the project site.

Provide documentation that your project meets the following criteria:

- ✓ The excavated channel shall have a discharge capacity equal to or greater than the existing channel. Excessive channel excavation will not be permitted.
- ✓ The alignments and dimensions of the excavated channel shall be such as to provide a smooth transition between the existing and the excavated channel.
- ✓ Velocities in the excavated channel shall not cause excessive erosion of the channel or banks. Energy dissipation structures, channel and bank protection or other engineering measures may be required to eliminate excessive erosion of the channel or banks.
- ✓ Spoil disposition shall not be located in the floodway.
- ✓ No significant increase in peak flood discharge is permitted.
- ✓ The channel change shall not have a significant adverse effect on fish and wildlife habitat or public rights to use of the stream. Conservation easements may be required to mitigate potential damages to the quality of water, fish and wildlife habitat, recreational facilities, and other public rights.
- ✓ The tillage of land along the reach of a straightened stream shall be prohibited or modified when necessary to hold soil erosion to reasonable limits.

## Summary of Engineering Data - Channel Changes

Stream Name: \_\_\_\_\_

Location Start: Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Location End: Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**If a Detailed Flood Insurance Study exists for the stream, provide the following information:**

- Original hydraulic model as received from FEMA
- Original hydraulic model with corrections made
- Corrected model with additional cross sections located at the project site
- Model with cross-sections at the site with the project included

**Channel through project reach:**

Existing length: \_\_\_\_\_ ft

Proposed length: \_\_\_\_\_ ft

% change in length: \_\_\_\_\_ %

**Channel through applicant property:**

Existing length: \_\_\_\_\_ ft

Proposed length: \_\_\_\_\_ ft

% change in length: \_\_\_\_\_ %

|  | Preconstruction | Source: | Excavated    |
|--|-----------------|---------|--------------|
| Slope:                                   | _____ ft/ft     | _____   | _____ ft/ft  |
| "n" value:                               | _____           |         | _____        |
| Bankfull Depth:                          | _____ ft        |         | _____ ft     |
| Bottom Width:                            | _____ ft        |         | _____ ft     |
| Sideslopes:                              | _____ H:V       |         | _____ H:V    |
| Bankfull Channel Area <sup>1</sup> :     | _____ sq ft     |         | _____ sq ft  |
| Bankfull Channel Velocity <sup>1</sup> : | _____ ft/sec    |         | _____ ft/sec |
| Bankfull Discharge <sup>1</sup> :        | _____ cfs       |         | _____ cfs    |

<sup>1</sup>Calculate all items at the bankfull depth of the shallower channel if there is a variation in channel depths